

# California High-Speed Train Project



## Agreement No.: HSR 11-16 Standard Drawings

Revision No.	Date	Description
0	01 Mar 12	Initial Release, R0
1	12 July 13	EXECUTION VERSION

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Mincio

DRAINAGE		
DRAWING TYPE	DRAWING NO.	DRAWING TITLE
SD	SD-CD-001	TRACK DRAIN/UNDERDRAIN, CLEANOUT AND RISER DETAILS
SD	SD-CD-002	DITCH DETAILS
SD	SD-CD-003	STORM DRAIN HOLES
SD	SD-CD-004	RETAINING WALL DRAINAGE DETAILS

A	05/31/13				EXECUTION VERSION
REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY R. MINCIO
DRAWN BY V. HUANTE
CHECKED BY H. NGUYEN
IN CHARGE J. CHIRCO
DATE 07/12/2013

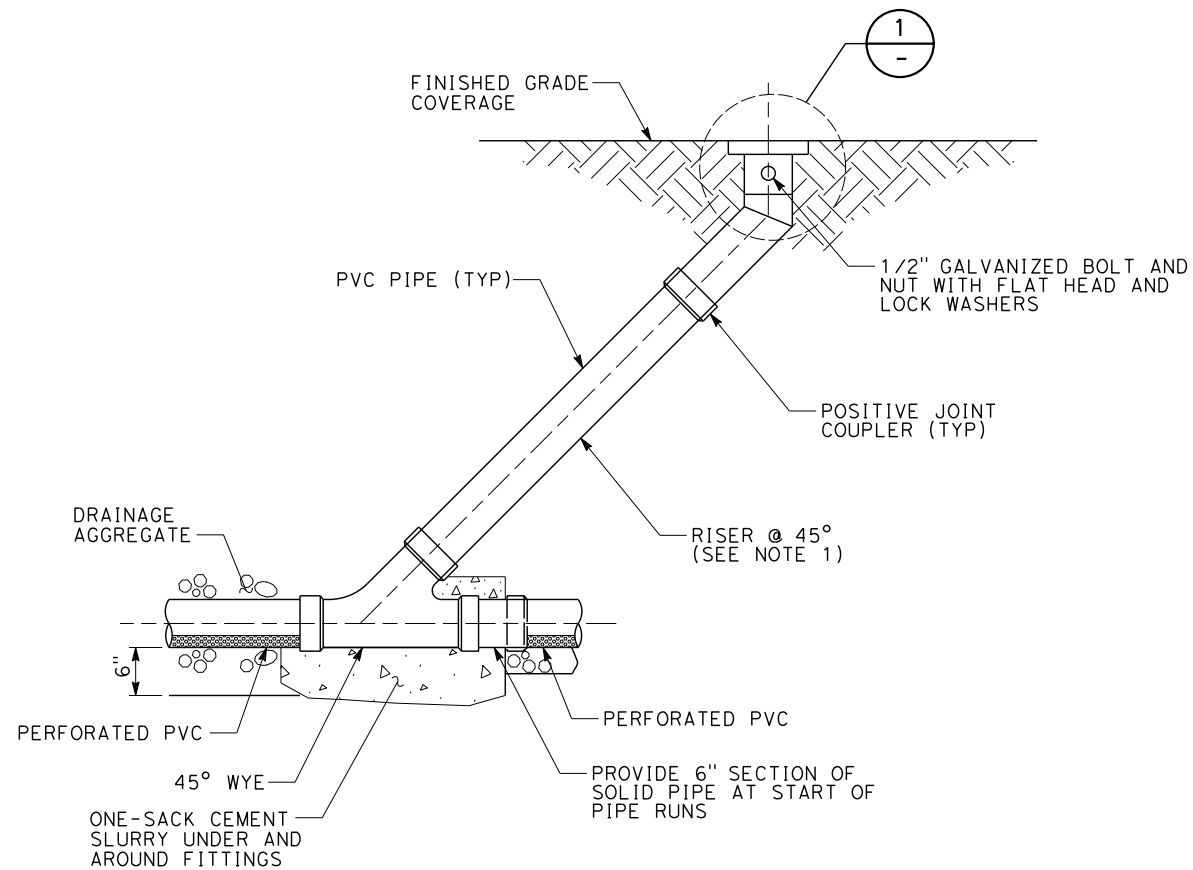


<b>CALIFORNIA HIGH-SPEED TRAIN PROJECT</b> <b>SIERRA SUBDIVISION</b>  STANDARD DRAWINGS CONTRACT PACKAGE 1 SHEET INDEX
CONTRACT NO.
DRAWING NO. INDEX-2 CP1
SCALE NO SCALE
SHEET NO.

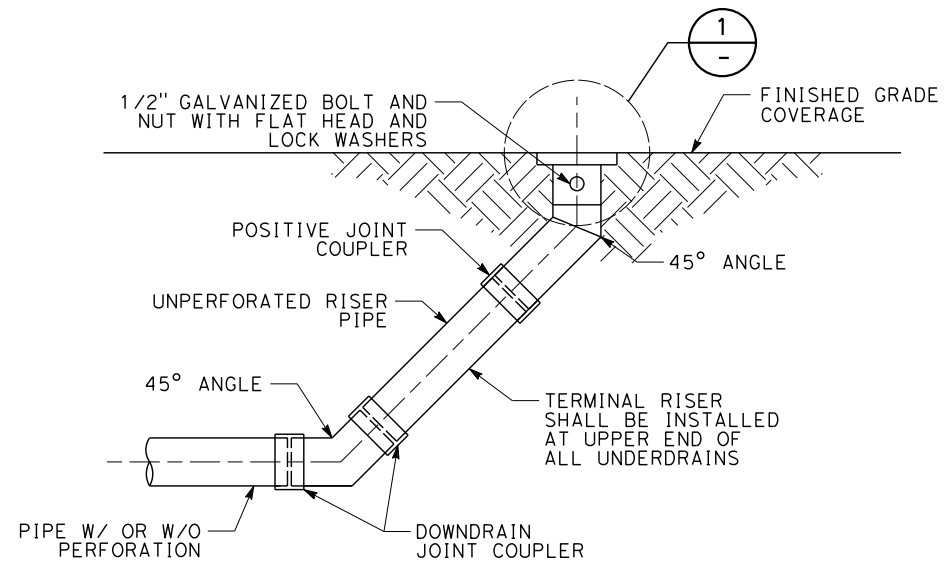
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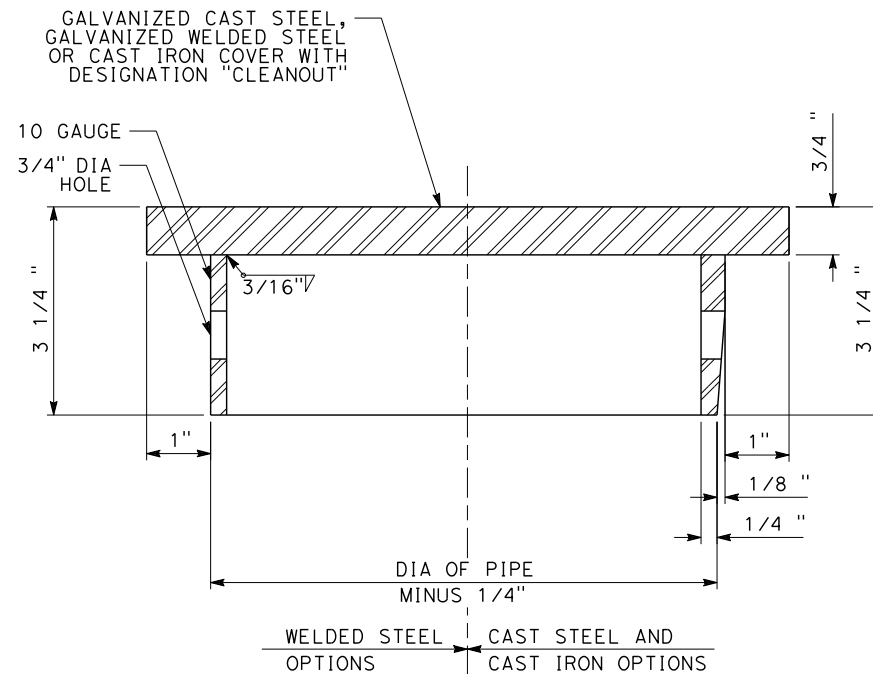
Mincio



**INTERMEDIATE RISER/CLEANOUT**  
SCALE: 1"=1'-0"



**TERMINAL RISER DETAIL**  
SCALE: 1"=1'-0"



**DETAIL**  
SCALE: 8"=1'-0"

**NOTES:**

1. RISER MAY BE ANGLED AT 90 DEGREES DUE TO SPACE CONSIDERATIONS.

REV	DATE	BY	CHK	APP	DESCRIPTION
A	05/31/13				EXECUTION VERSION

DESIGNED BY K. SISTLA
DRAWN BY V. HUANTE
CHECKED BY A. ABTAHI
IN CHARGE J. CHIRCO
DATE 07/12/2013

**PARSONS  
BRINCKERHOFF**



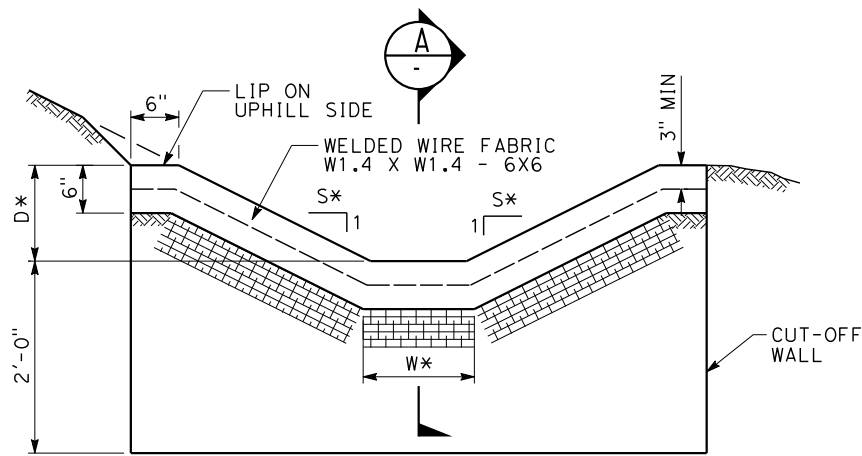
**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
DRAINAGE STANDARD**

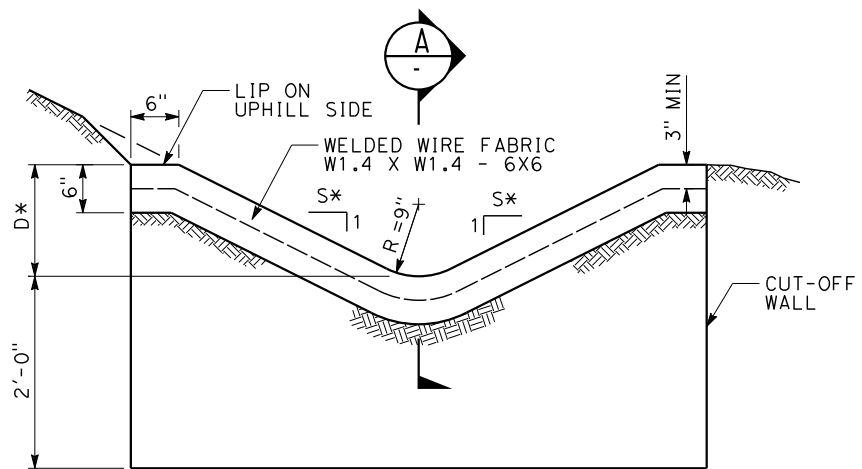
TRACK DRAIN/UNDERDRAIN  
CLEANOUT AND RISER DETAILS

CONTRACT NO.
DRAWING NO. SD-CD-001
SCALE AS SHOWN
SHEET NO.

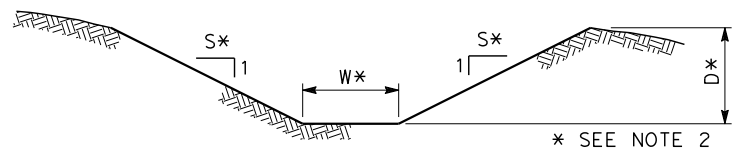
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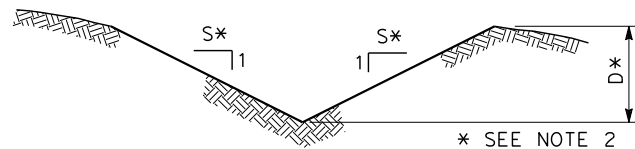
TYPE A (TRAPEZOID) DITCH



TYPE B ("V") DITCH

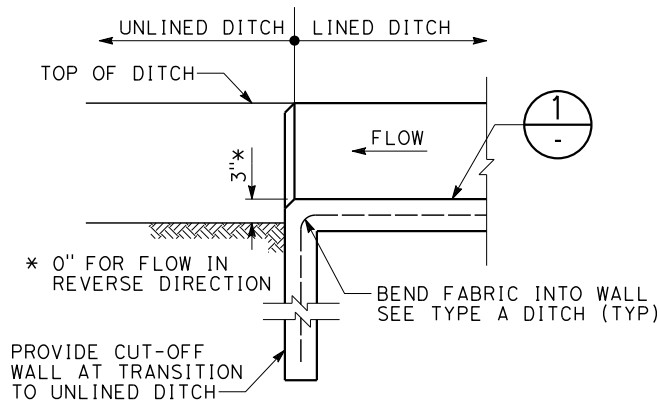


TYPE C (TRAPEZOID) DITCH

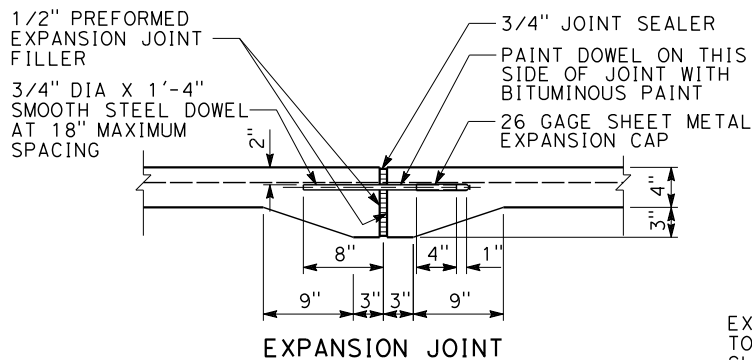


TYPE D ("V") DITCH

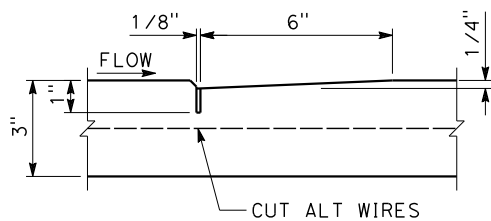
**DITCH DETAILS**  
NO SCALE



**SECTION**



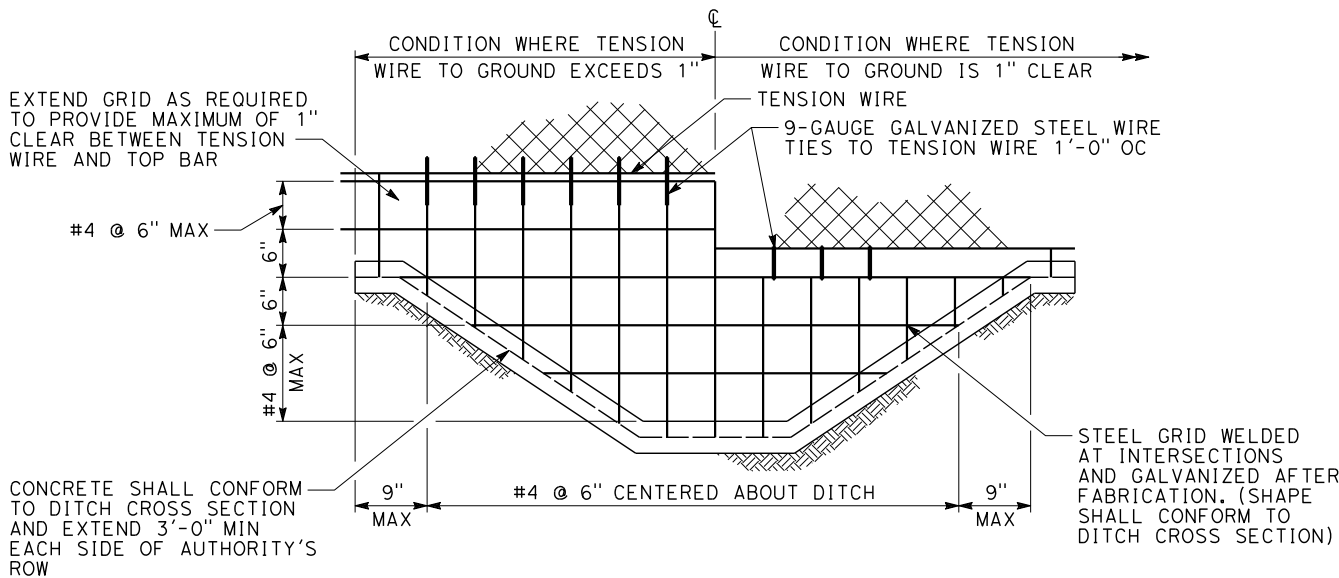
EXPANSION JOINT



CONTRACTION JOINT

**JOINT DETAILS**

NO SCALE  
(SEE NOTE 3)



**OPEN CHANNEL CLOSURE DETAIL**

NO SCALE  
(SEE NOTE 4)

**NOTES:**

1. DITCH LINING SHALL BE CONCRETE OR SHOTCRETE.
2. DITCH SHALL CONFORM TO THE FOLLOWING MINIMUM DIMENSIONS:  
  
D = DEPTH OF DITCH, 1 FOOT MINIMUM  
S = SLOPE OF DITCH, SIDES, 2:1 MAX FOR CONCRETE LINED CHANNEL, 3:1 MAX FOR GRASS LINED CHANNEL  
W = WIDTH OF BOTTOM OF DITCH, 4 FEET MINIMUM
3. TYPE A AND B DITCHES SHALL HAVE A CONTRACTION JOINT EVERY 10 FEET, AND AN EXPANSION JOINT EVERY 100 FEET.
4. OPEN CHANNEL CLOSURE SHALL BE REQUIRED AT EACH LOCATION WHERE AN OPEN CHANNEL PASSES UNDER AUTHORITY'S RIGHT-OF-WAY.

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A	05/31/13				EXECUTION VERSION

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DRAWN BY V. HUANTE
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IN CHARGE J. CHIRCO
DATE 07/12/2013

**PARSONS  
BRINCKERHOFF**



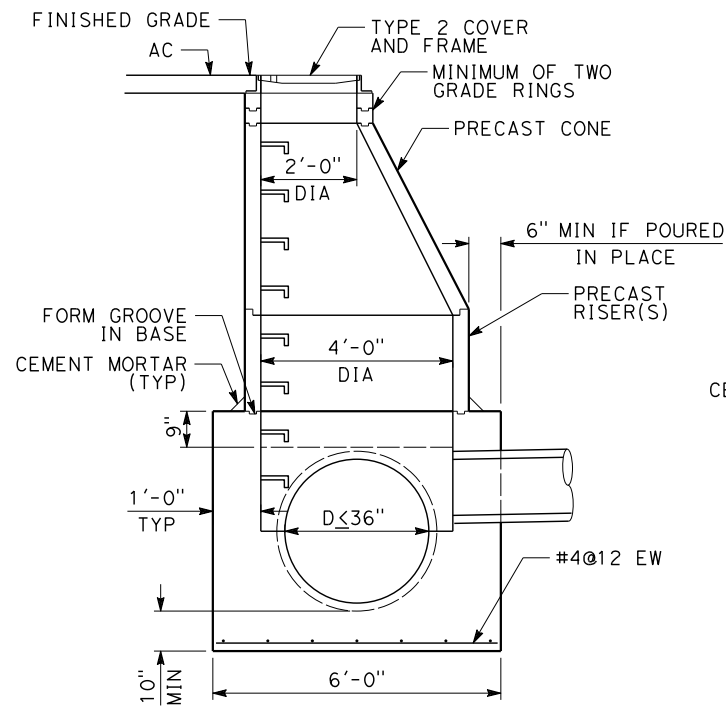
**CALIFORNIA**  
HIGH-SPEED RAIL AUTHORITY

**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
DRAINAGE STANDARD**

DITCH DETAILS

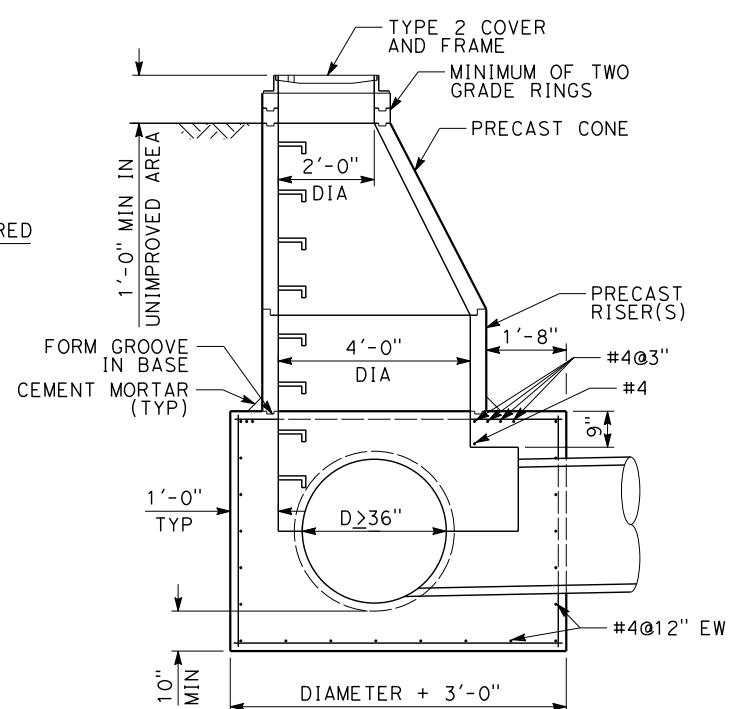
CONTRACT NO.
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SCALE NO SCALE
SHEET NO.

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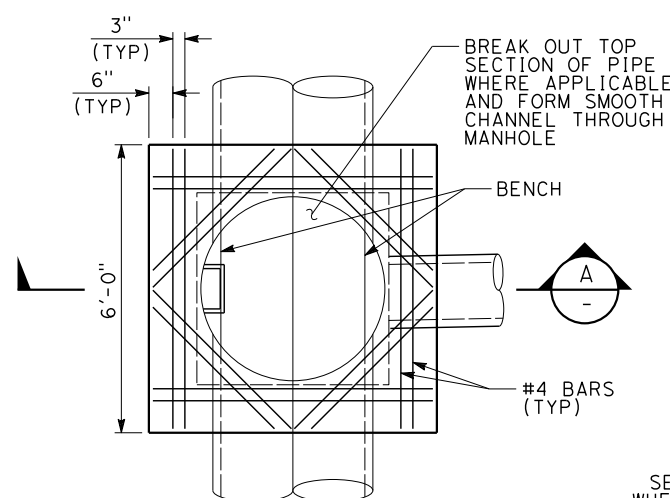
**SECTION**  
NO SCALE  
A

NOTE:  
FOR STEP DETAILS, SEE NOTES  
MANHOLE FOR  
PIPE DIAMETER 36" OR LESS

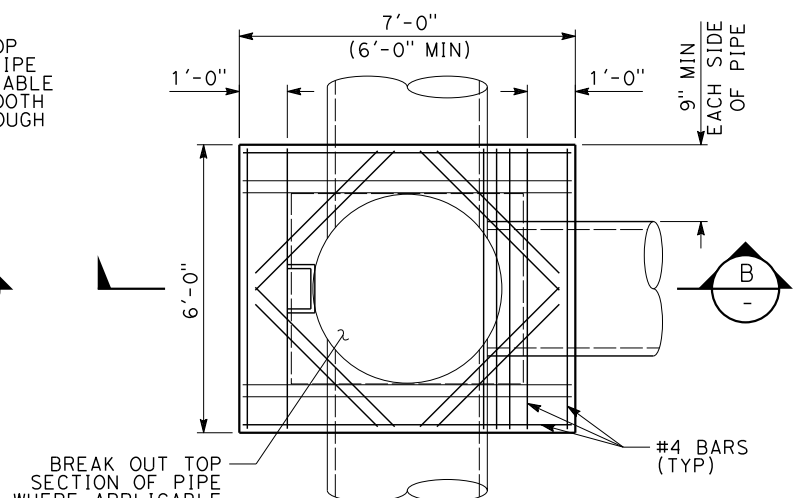


**SECTION**  
NO SCALE  
B

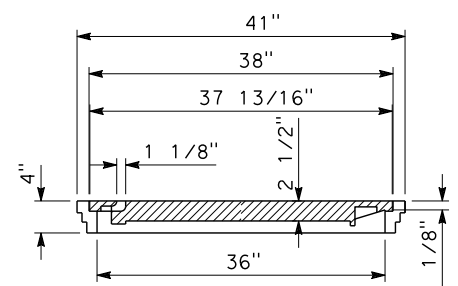
MANHOLE FOR  
PIPE DIAMETER MORE THAN 36"



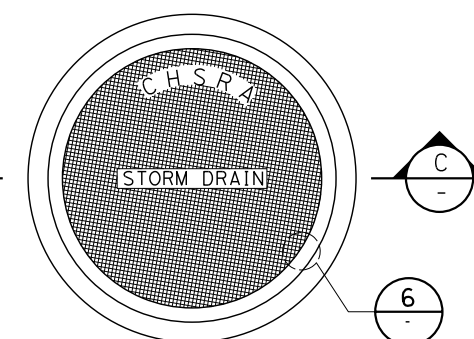
**DETAIL**  
NO SCALE  
I



**DETAIL**  
NO SCALE  
2

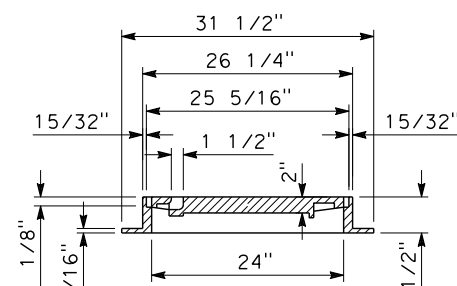


**SECTION**  
NO SCALE  
C

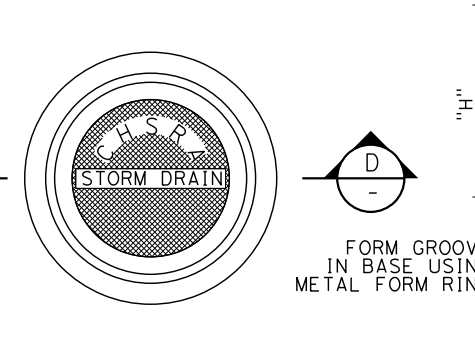


TYPE 1 COVER AND FRAME  
(WEIGHT=700#)

**DETAIL**  
NO SCALE  
3

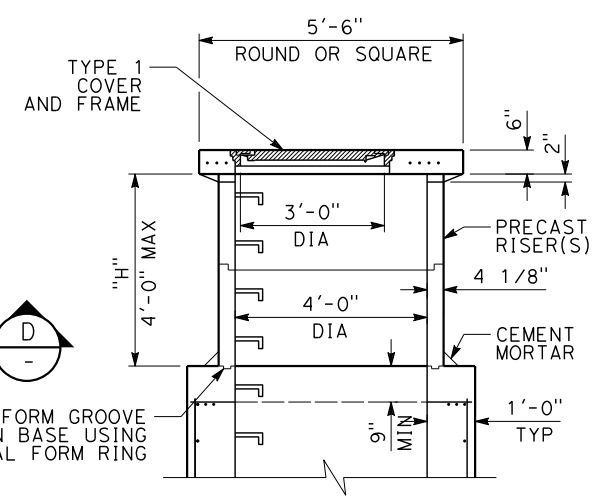


**SECTION**  
NO SCALE  
D



TYPE 2 COVER AND FRAME  
(WEIGHT=320#)

**DETAIL**  
NO SCALE  
4



ALTERNATE CHIMNEY  
AND GRADE SLAB  
(REQUIRED WHERE "H" IS LESS THAN 4'-0")

**DETAIL**  
NO SCALE  
5

- NOTES:**
1. GROUT ALL JOINTS.
  2. ALL PORTLAND CEMENT CONCRETE SHALL BE CLASS 4000.
  3. PLACE STEPS ON DOWNSTREAM SIDE OF MANHOLE IF POSSIBLE.
  4. REFER TO CALTRANS STANDARD PLAN FOR STEP DETAILS (D74C).

REV	DATE	BY	CHK	APP	DESCRIPTION
A	05/31/13				EXECUTION VERSION

DESIGNED BY K. SISTLA
DRAWN BY T. DOUNG
CHECKED BY A. ABTAHI
IN CHARGE J. CHIRCO
DATE 07/12/2013

**PARSONS  
BRINCKERHOFF**



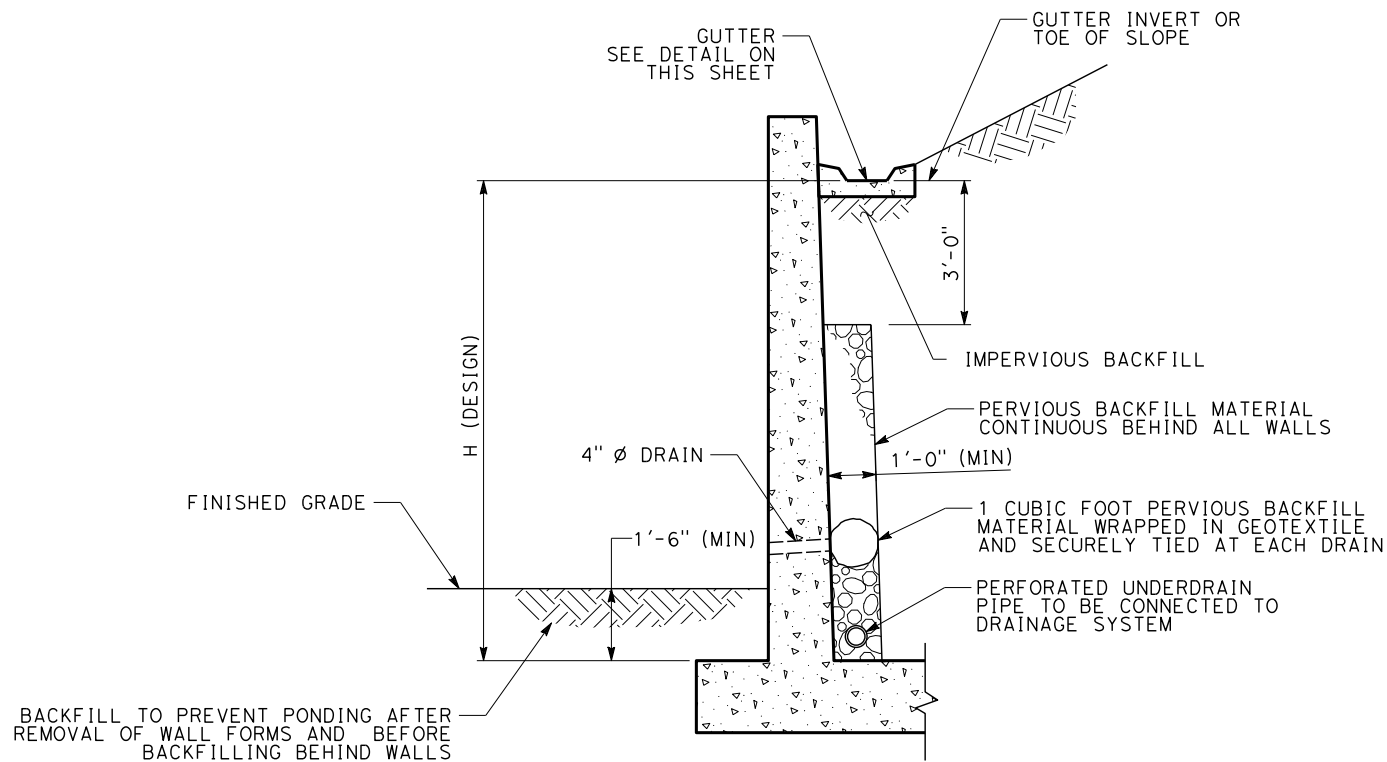
**CALIFORNIA HIGH-SPEED TRAIN PROJECT  
DRAINAGE STANDARD**  
  
STORM DRAIN MANHOLES

CONTRACT NO.
DRAWING NO. SD-CD-003
SCALE NO SCALE
SHEET NO.

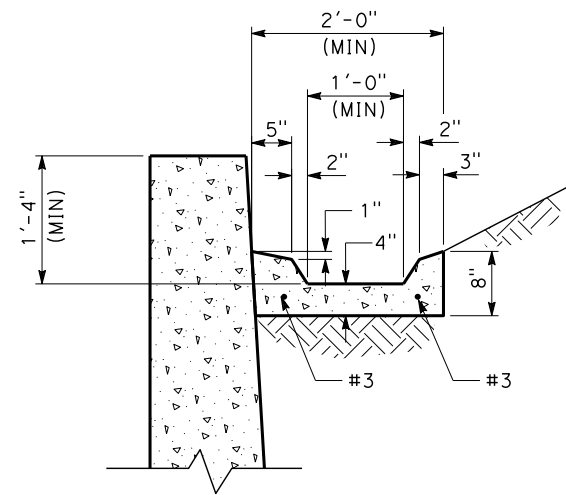
07/12/2013 Agreement No.: HSR13-06 - EXECUTION VERSION

NOTES:



1. RETAINING WALL STRUCTURE IS SCHEMATIC AND DOES NOT REPRESENT DESIGN.



## RETAINING WALL DRAINAGE



## TYPICAL GUTTER DETAIL

						DESIGNED BY K. SISTLA			<b>CALIFORNIA HIGH-SPEED TRAIN PROJECT DRAINAGE STANDARD</b>	CONTRACT NO.
						DRAWN BY V. HUANTE				DRAWING NO. SD-CD-004
						CHECKED BY A. ABTAHI				SCALE NO SCALE
A	05/31/13				EXECUTION VERSION	IN CHARGE J. CHIRCO				
REV	DATE	BY	CHK	APP	DESCRIPTION	DATE 07/12/2013				SHEET NO.